Application No.: 09/938,643 Docket No.: A8319.0002/P002

REMARKS

The application has been reviewed in light of the Office Action dated May 5, 2004. Claims 1 and 19 have been amended. Claims 1-20 are pending in this case. The specification has been editorially revised. Applicants reserve the right to pursue the original claims and other claims in this and other applications. Applicants respectfully request reconsideration of the above-referenced application in light of the foregoing amendments and following remarks. A Supplemental Information Disclosure Statement is also being filed.

Claims 1-3, 8-12, 14, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamagata in view of He. The rejection is respectfully traversed. Contrary to the Office Action, He does not disclose impedance converters connected to an output of a ladder resistor. Yamagata and He do not teach or suggest Applicants' claimed impedance converters. He's elements 422, 424, 426, and 428 are merely reference voltage generating amplifiers.

He discloses that the output of the bias voltage divider 120 is inputted in the column driver 130 and the row driver 140. This is made to supply the bias voltage that corresponds to the function of the reference voltage generating circuit 17 including the reference voltage generating amplifiers 18 Applicants illustrate in FIG. 3.

Specifically, in connection with the present application, note that "FIG. 3 illustrates the circuit configurations of and around buffer amplifiers 14 and the ladder resistor 15. The ladder resistor 15 is provided with nine external circuit connection terminals 16, to each of which is connected the output of a reference voltage generating amplifier 18 of a reference voltage generating circuit 17" (specification, pg. 6-10).

In other words, He's micro-power amplifiers 422, 424, 426, and 428 correspond to the reference voltage generating amplifier 18 of a reference voltage generating circuit 17 of Applicants' application. The outstanding features of the impedance converters 14 are not taught, suggested, or disclosed in He. Further, Applicants' claimed impedance converters 14 are provided within the driver circuit.

Moreover, the cited prior art does not teach or suggest that "the number of said impedance converters matches the number of said gray level voltage wires," as recited in claims 1 and 20.

Applicants' claimed invention results in "analog active circuits such as the impedance converters need not be as many as the number of signal lines but are sufficient in the same number as the gray level voltage wires." (Applicants' specification, pg. 3, lines 15-19).

Even if He's micro-power amplifiers 422, 424, 426, and 428 are analogous to Applicants' claimed impedance converters 14, which they are not, He discloses gray level wires V_0, V_1, V_2, V_3, and V_4. There are five gray level wires (V_0, V_1, V_2, V_3, and V_4) in He which does not match the four micro-power amplifiers (422, 424, 426, and 428).

Accordingly, the § 103(a) rejection for claims 1 and 20 should be withdrawn. Yamagata and He simply do not teach or suggest Applicants' claimed impedance converters 14 or that the number of impedance converters matches the number of gray level wires. Claims 2-3, 8-12, and 14 depend from claim 1 and are similarly allowable for at least the reasons provided above.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over He and Yamagata in view of Nakajima. The rejection is respectfully traversed.

Claim 6 depends from claim 1 and is similarly allowable for at least the reasons provided above with regard to claim 1. In particular, Yamagata and He do not teach or suggest Applicants' claimed impedance converters 14 or that the number of impedance converters matches the number of gray level wires. Nakajima is relied upon for disclosing an offset canceling unit and adds nothing to rectify the deficiencies of He and Yamagata. Accordingly, withdrawal of the § 103(a) rejection for claim 6 is respectfully solicited.

Claims 4-5 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over He and Yamagata in view of Morita. The rejection is respectfully traversed.

Claims 4-5 and 7 depend from claim 1 and are similarly allowable for at least the reasons provided above with regard to claim 1. Morita is relied upon for disclosing a differential amplifying circuit using field-effect transistors and adds nothing to rectify the deficiencies of He and Yamagata. Accordingly, withdrawal of the § 103(a) rejection for claims 4-5 and 7 is respectfully solicited.

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over He and Yamagata in view of Negishi. The rejection is respectfully traversed.

Claim 13 depends from claim 1 and is similarly allowable for at least the reasons provided above with regard to claim 1. Negishi is relied upon for disclosing a ladder resistor configured as one resistor and adds nothing to rectify the deficiencies of He and Yamagata. Accordingly, withdrawal of the § 103(a) rejection for claim 13 is respectfully solicited.

Claims 15-16 and 18-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamagata in view of He and Kane. The rejection is respectfully traversed.

For similar reasons provided above with regard to claims 1 and 20, Yamagata and He do not teach or suggest an image display apparatus driving method comprising Applicants' claimed impedance converters 14 or that "the number of said impedance converters matches the number of said gray level voltage wires," as recited in claims 16 and 19.

He merely discloses micro-power amplifiers 422, 424, 426, and 428 which are analogous to Applicants' disclosed reference voltage generating amplifiers 18 (FIG. 3). Further, He discloses five gray voltage wires matched to four micro-power amplifiers. Kane is relied upon for disclosing three separate phases when the analog image signal voltages are written onto the signal line and adds nothing to rectify the deficiencies of Yamagata and He.

Claim 15 depends from claim 1 and is similarly allowable for at least the reasons provided above with regard to claim 1. Claims 17 and 18 depend from claim 16 and are similarly allowable for at least the reasons provided above with regard to claim 16. Accordingly, withdrawal of the § 103(a) rejection for claims 15-16 and 18-19 is respectfully solicited.

Claim 17 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over He and Yamagata, Kane and further in view of Nakajima. The rejection is respectfully traversed.

Claim 17 depends from claim 16 and is similarly allowable for at least the reasons provided above with regard to claim 16. Nakajima is relied upon for disclosing

an offset canceling unit and adds nothing to rectify the deficiencies of He, Yamagata, and Kane. Accordingly, withdrawal of the § 103(a) rejection for claim 17 is respectfully solicited.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

By _____

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